

The development of two distance-learning classes on Effective Spraying for organic growers in New York

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Abstract:

Many organic growers have never studied application technology and choose not to attend grower meetings where application technology and agro-chemicals are discussed. This IPM-funded project uses the internet to disseminate information on application technology. To maximize the impact of this project two distance-learning classes of 1 hour each were developed. Course One teaches hand-held application techniques, Course Two describes boom sprayer use. Distance learning has gained popularity and acceptance, it has distinct advantages, particularly with many organic farmers and growers who have less time to travel great distances to conferences and workshops. The information learned is very useful to all farmers and growers in our attempts to optimise pesticide use and improve their understanding of good spraying practices, resulting in more effective spraying.

Background and Justification:

Organic farmers are often neglected in the general thrust of extension duties, particularly regarding application technology. For a long-time organic farmers and growers have been “in the dark” about the correct use of application technology. Not requiring a NY DEC “sprayer license” (as they don’t apply restricted use products), most organic sprayer operators have never studied sprayer design and use. This project provides organic growers with information specifically targeted at their industries, using terminology they prefer to read and describing the use of products they choose to use. Many growers don’t have the time nor the inclination to attend workshops or classes on application techniques. A number of organic growers choose not to attend and listen to workshops specifically aimed at “conventional” pesticides with its attendant implications and outcomes.

This extension thrust addresses IPM efforts, particularly in the high priority areas of weed management in vegetables, ornamentals and field crops. These courses, by the nature of the technology discussed, are also applicable to non-organic farmers and growers – a sprayer is a sprayer and its correct use is applicable to all farmers.

This project strengthens organic growers’ knowledge as they often apply a number of different products to assist in the control of insects, diseases and weeds. One course is specifically aimed at smaller vegetable growers, the other at medium to large vegetable and field crop farmers. Undoubtedly parts of the courses are of interest to gardeners. The courses cover the basics of effective spraying, from nozzle selection to ensure droplets stay on the target to effective use of backpack and boom sprayers.

Objectives:

1. To improve organic farmers and growers knowledge of modern application techniques to enable effective applications to be made, in particular, improve deposition and reduce drift
2. Enhance farmers and growers appreciation that good techniques, based upon sound engineering science, will assist their selection of appropriate technology.
3. Project evaluation.

Procedures:

1. Two web-based courses on Effective Spraying were developed, one specifically for smaller growers who use hand-held sprayers, the other for vegetable/field crop farmers with boom sprayers. The courses were professionally created by Liz Larzelere, one of my application team members, who has thirteen years experience of creating such courses, plus a Masters degree in distance learning techniques. The courses make good use of a combination of text, photographs, drawings and narrated powerpoint slides and are enhanced with short video clips and weblinks for further study. The courses are self-guided, with a pre and post-tests to ensure the students have followed the study.

2. The application team at Cornell University and elsewhere have developed many useful teaching aids and have conducted field trials to show how engineering improvements can aid deposition, for example, new nozzle designs can reduce drift and improve deposition. Many techniques can be used which will assist the grower with reducing pesticide use and saving money and these are included in the courses.

3. The project can be evaluated by monitoring course use. Because the courses are on-line, we are able to ascertain the farmers knowledge prior to study via a pre-test. Their understanding of the course will be assessed using the post-course test. Uptake of the courses can be assessed by recording the number of people taking the courses over the year.

Discussion

Courses specifically tailored for organic growers should have a dramatic impact on the organic producers of New York and beyond. There are no courses on application technology written specifically for them, so the impact should be great in the future. The economic impact should be considerable for the individual farmer/grower, as timeliness should improve (due to correct application to the target) and product use should decrease (droplets being more effective). The growers financial bottom line should then improve as there could be less disease/insect pressure and better control of weeds.

A more financially successful, organic farmer /grower who is aware of technological improvements may then purchase better spray equipment and operate it more effectively.

These two courses on the internet will be seen by more than just New York farmers and growers, it will also be seen by extension educators and others interested in better spraying.

Project location

The two courses are hosted on the Cornell University Cooperative Extension website:
<http://moodle2.cce.cornell.edu/>

under the section:

Agriculture: Beginning farmers program

The two courses are entitled:

Effective spraying with back pack sprayers for organic growers

Effective spraying with boom sprayers for organic growers

The courses are free.